

REMARKS/ARGUMENTS

I. Introduction:

Claims 5, 10-15, 17, and 21-22 have previously been canceled. Claims 1-4, 6-9, 16, 18-20, and 23 are currently pending.

The courteous telephone interview granted applicant's undersigned attorney on July 11, 2005, by Examiner Alina Boutah is respectfully acknowledged. As requested by the Examiner, a summary of the arguments presented during the interview is set forth below.

II. Claim Rejections Under 35 U.S.C. 103:

Claims 1-4, 6-9, 16, 18-20, and 23 stand rejected under 35 U.S.C. 103 as being unpatentable over U.S. Patent No. 6,754,706 (Swildens et al.).

The Swildens et al. patent discloses a scalable domain name system with persistence and load balancing. Each DNS server is associated with a subset of the DNS groups in the network. If a DNS server is not authoritative for a client DNS server's group, a request received by the client DNS server is forwarded to the proper DNS server. Otherwise a persistence table is checked to see if a persistent response is required for the request.

Applicant's invention, as set forth in claim 1, is directed to a method for providing a persistent connection between a client and a real server. The method generally includes: receiving a request originating from a first client for connection to a virtual server implemented on a local director which is in communication with two or more real servers; identifying a natural class of an IP address of the first client; and determining if the local director has received and sent out connection requests from the first client or any client having the same natural class as the first client by searching a table stored on the local director and identifying previous connections created between the local director

and the real servers. If the local director has received and sent out a connection request to one of the real servers from the first client or any client having the same natural class as the first client, the same real server is selected for connection with the first client. If the local director has not received and sent out a connection request to one of the real servers from the first client or any client having the same natural class as the first client, one of the real servers is selected based on load balancing.

Swildens et al. do not show or suggest receiving a request at a local director in communication with two or more servers, identifying a natural class of an IP address of the client sending the request or determining if the local director has received and sent out connection requests from the client or any other client having the same natural class as the client.

The local director of applicant's invention serves as a front end to a group of servers and can be used to make load balancing decisions. In contrast to using a local director, requests in the system of Swildens are received directly at a DNS server. Upon receiving a request, the DNS server checks to see if it is authoritative for the client DNS server. If it is, the request may be processed at the server. If the DNS server is not authoritative to the client DNS server's group, the request is forwarded to the proper DNS server. Swildens et al. do not check to see if the DNS server has received and sent out a connection request from the client sending the request or any other client having the same natural class.

Furthermore, Swildens et al. do not show or suggest selecting the same server for connection with a client if the DNS server has previously received and sent out a connection request from the client or any client having the same natural class. As discussed above, Swildens et al. only look to see if a server is authoritative for a client DNS server group. It does not look to see which servers have been used in the past. If there is a request for a persistence connection, the DNS server merely returns the same IP address for subsequent requests, but does not require a request be sent to the same DNS server.

Moreover, Swildens et al. only perform load balancing among authoritative servers. If the DNS server receiving the request for an IP address is authoritative, then a response is sent and no load balancing is performed. Applicant's invention, as set forth in claim 1, allows for load balancing among all servers in communication with a local director if the local director has not received and sent out a connection request to one of the real servers from the client sending the request or any client having the same natural class as the client. Applicant's invention is particularly advantageous in that if a client having a natural class for which no connection has been made requests a connection, a server can be selected based strictly on load balancing. Also, since connections are identified in a table stored on the local director, sticky connections can be timed out after a specified period for one or more natural classes.

Accordingly, claim 1 is submitted as patentable over Swildens et al. and the prior art of record. Claims 2-4 and claims 18-20, depending directly from claim 1, are submitted as patentable for the same reasons as claim 1.

Claim 2 is further submitted as patentable over Swildens et al., which do not show or suggest selecting the same real server for all clients having the same natural class subnet. In rejecting claim 2, the Examiner refers to col. 6, lines 46-65 of the Swildens et al. patent. This section of the patent refers to latency probes which are associated with a given group of servers, which may be selected based, for example, on IP addresses. Swildens et al. are not concerned with selecting a server for connection with a requesting client based on the natural class of the requesting client.

With regard to claim 3, Swildens et al. do not address receiving a request from a firewall.

Claim 18 is submitted as patentable over Swildens et al. because they do not show or suggest updating a table each time a connection is made between a local director and real servers with a new natural class. Swildens et al. are not concerned with tracking

connections based on class since they select servers based on whether they are authoritative for a client DNS server.

Since Swildens et al. do not select servers based on a subnet mask, claim 20 is also further submitted as patentable over Swildens et al.

Claim 6 is directed to a computer program product for providing a persistent connection between a client and a server. The product includes code that receives a request for connection to a virtual server implemented on a local director; code that identifies a natural class of an IP address of said first client; and code that determines if the local director has received and sent out connection requests from said first client or any client having the same natural class as said first client by searching a table stored on the local director and identifying previous connections created between the local director and said two or more real servers.

Claim 6 is submitted as patentable over Swildens et al. for the reasons previously discussed with respect to claim 1.

Claim 7-9, depending either directly or indirectly from claim 6, are submitted as patentable for the same reasons as claim 6.

Claims 8 and 9 are further submitted as patentable for the reasons discussed above with respect to claims 2 and 3, respectively.

Claim 23 is directed to a system for providing a persistent connection between a client and a real server and is submitted as nonobvious over Swildens et al. for the reasons previously discussed with respect to claim 1.

III. Conclusion:

For the foregoing reasons, Applicant believes that all of the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a

Appl. No. 09/629,036
Amd. Dated July 11, 2005
Reply to Office Action of April 8, 2005

telephone conference would in any way expedite the prosecution of the application,
please do not hesitate to call the undersigned at (408) 399-5608.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'C. Kaplan', with a long horizontal flourish extending to the right.

Cindy S. Kaplan
Reg. No. 40,043

P.O. Box 2448
Saratoga, CA 95070
Tel: 408-399-5608
Fax: 408-399-5609